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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/638,425	08/12/2003	Jesse Zhu	14417	5075
293	7590	06/28/2005	EXAMINER	
Ralph A. Dowell of DOWELL & DOWELL P.C. 2111 Eisenhower Ave. Suite 406 Alexandria, VA 22314			GORMAN, DARREN W	
			ART UNIT	PAPER NUMBER
			3752	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/638,425	ZHU ET AL.
Examiner	Art Unit	
Darren W. Gorman	3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 May 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 13-47 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4 is/are rejected.
- 7) Claim(s) 5-12 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 16 May 2005 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date: _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

**EXAMINER'S NOTES**

1. As set forth in the Interview Summary mailed June 13, 2005, upon further consideration of the prior art of record and in view of the claim amendments filed May 16, 2005, the Examiner has determined that the prior art of record to Nagasaka et al. (USPN 4,805,069) should still be applied as an anticipating reference under 35 USC 102(b), despite indicating in a previous personal interview on April 21, 2005, that the claim amendments would overcome the prior art to Nagasaka et al. As indicated in the interview summary mailed June 13, 2005, the Examiner is proceeding with a second non-final Office Action as set forth below.

*Election/Restrictions*

2. Although Applicant amended claim 31 to include similar limitations added to claim 1, Examiner submits that claim 31 is still drawn to a species non-elected, there being no allowable generic or linking claim. Claim 31 and all other withdrawn claims must be identified with the claim status identifier "withdrawn" in subsequent responses/amendments.
3. Claims 13-47 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 19, 2005.

***Drawings***

4. With respect to the content of the drawing corrections filed May 16, 2005 in order to overcome the drawing objection set forth in the Office Action mailed February 15, 2005, the corrections are acceptable. However, the new sheet of drawings showing Figures 2, 2a and 2b lacks the appropriate label of "New Sheet" as required by 37 CFR 1.121(d).

Drawing sheet(s) in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagasaka et al., USPN 4,805,069.

Nagasaka et al. shows a powder spraying apparatus (see Figure 3) comprising: a housing (1) having first and second ends, the housing defining a chamber (2) terminating in an outlet passageway (in direction of arrow 9 – actual outlet not shown) at the first end of the housing; a high voltage electrode (3) positioned in the chamber upstream of the outlet passageway, the high voltage electrode having a first surface area; a ground electrode (4 – grounded via lead wire 21) positioned in the chamber upstream from the high voltage electrode, the ground electrode having

a second surface area that is larger than a surface area of the high voltage electrode; and an inlet opening (to the left of arrow 8 – actual inlet not shown) into the chamber located at the second end of the housing which conducts a powder-gas mixture (8) into the chamber.

Further, Nagasaka et al. shows means (16a) for supplying a cleaning gas (17) toward the high voltage electrode (see Figure 3; and column 7, lines 1-10). Nagasaka et al. also shows the device wherein the high voltage electrode comprises at least one charging pin (3) connected to a conductor (5c) located within an electrically insulated tube (3a) disposed along an axis of the housing, the conductor being connected to a high voltage power supply (5, 5a) (see Figure 3; and column 6, line 60 through column 7, line 10).

NOTE: Although surface area dimensions of electrodes “3” and “4” are not expressly discussed in the disclosure of Nagasaka et al., it appears that the entire surface area of the grounded electrode (4) in Figure 3 is significantly larger than the entire surface area of the high voltage electrode (3). Further, with respect to the limitations of “a first surface area” and “a second surface area”, such terms are broad enough that either of the surface areas recited could be drawn to anything from only a minute portion to an entire or whole surface area of each electrode. However, even if one interprets “a first surface area” and “a second surface area” as being limited to only the entire or whole surface area of each respective electrode, it remains the Examiner’s position that Figure 3 shown by Nagasaka et al. anticipates the recited structure of claim 1. Further, with regard to the recitation “such that when a high voltage is applied to the high voltage electrode, an electrical field produced in a vicinity of the ground electrode is sufficiently low to prevent arc discharging occurring in the vicinity of the ground electrode in the chamber”, it can reasonably be assumed that arc discharging would also be prevented in the same

“vicinity of the ground electrode” region of the apparatus shown in the Figure 3 embodiment of Nagasaka et al., even though not expressly discussed in the disclosure of Nagasaka et al., since the structure as recited in claim 1 is anticipated.

*Allowable Subject Matter*

7. Claims 5-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

8. Applicant's arguments filed on pages 21-22 of the response filed May 16, 2005, in view of the amendments to claim 1 filed therewith, have been fully considered but they are not persuasive. As indicated above in paragraph 1 of this Office Action, the Examiner has regretfully withdrawn the indication of allowability of claim 1 with respect to the discussion held in the personal interview conducted April 21, 2005. It is believed that the Examiner has addressed all of the arguments/remarks set forth in the aforementioned pages of the May 16, 2005 response (see above paragraph 6 of this Office Action), with the exception of two points, both of which are addressed below.

The first of these issues appears on page 22, lines 7-13. Applicant argues that “the entire surface area of the cylindrical wire electrode 3 appears to be exposed to the plasma while only the end tip of the “thick” opposite polarity electrode appears to be exposed...” In response, the Examiner submits that such an argument is not commensurate with the claim language as recited

in claim 1. Claim 1 does not expressly limit surface areas to “entire” surface areas of the respective electrodes, nor is claim 1 limited only to surface areas that are exposed to the plasma.

The second of these issues appears on page 22, lines 13-17. Applicant argues that “if it can be argued that Figure 3 shows a ground electrode with a higher surface area than the high voltage electrode, then it could be argued that some of the other Figures show the opposite. For example in Figure 12 the wire shaped surface electrode 3X arguably could have a larger surface area than the ground electrode.” In response, the Examiner submits that only the embodiment shown in Figure 3 has been applied under 35 USC 102(b). Arguments of patentability based on drawings in the reference not applied by the Examiner are irrelevant.

### *Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W. Gorman whose telephone number is 571-272-4901. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Dave Scherbel can be reached on 571-272-4901. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3752

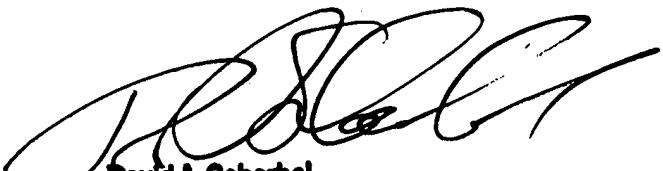
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Darren W Gorman  
Examiner  
Art Unit 3752

*DWG 6/13/05*

DWG

June 13, 2005



**David A. Scherbel**  
**Supervisory Patent Examiner**  
**Group 3700**